

Claims:

1. **An optical fibre receiver** for an opto-electronic integrated circuit (OEIC), consisting essentially of at least one photo-receiver (11) and at least one transimpedance amplifier, wherein
  - (i) the photo-receiver is divided into several partial photo-diodes (D1, D2, D3, D4), or consists of a number of individual photo-diodes;
  - (ii) each partial photo-diode is connected to an own transimpedance amplifier (20, 21, 22, 23), and the electrical output signals of the transimpedance amplifiers are combined electrically by a summing amplifier (30).
2. The fibre receiver according to Claim 1 wherein the photo-diodes, the transimpedance amplifiers and the summing amplifier are integrated together with other circuitry onto one chip.
3. The fibre receiver according to Claims 1 and 2 wherein the receiver is manufactured in a CMOS technology.
4. The fibre receiver according to Claims 1 and 2 wherein the receiver is manufactured in a bipolar technology.
5. The fibre receiver according to Claims 1 and 2 wherein the receiver is manufactured in a BICMOS technology.
6. The fibre receiver according to Claims 1 or 2 wherein the receiver is an integrated component of a monolithic circuit, in particular comprising the photo-receiver (11) having a size up to substantially 1 mm diameter (d2).
7. The fibre receiver according to Claim 1 wherein the transimpedance amplifiers are provided as operational amplifier circuits.

8. The fibre receiver according to Claims 1 or 7 wherein the transimpedance amplifiers (21, 22, 23, 20) are wired as current-voltage converters.
9. The fibre receiver according to Claim 1 wherein four partial regions (D1, D2, D3, D4) of the photo-receiver (11) are provided as separate photo-diodes, in particular having between each other an optically or electrically insensitive intermediate zone (12).
10. **A method** of receiving a high frequency light signal in an optical receiver (11) at an end of an optical fibre, in particular a relatively thick plastic fibre, wherein a spot of light projected by the fibre onto the optical receiver (11) falls on several individual regions (D1, D2, D3, D4) of the optical receiver (11), these regions being electrically decoupled from one another or having substantially no electrical conductance between each other.
11. The method according to Claim 10 wherein the spot of light is of an order of magnitude of substantially 1 mm diameter or less, but of a relatively large area.
12. The method according to Claim 10 wherein a size of the spot of light is adjusted to have a substantially similar size as the size of the optical receiver (11), or vice versa.
13. The method according to Claim 10 wherein each individual region (D1, D2, D3) of the optical receiver (11) is smaller than the spot of light, or is smaller than a total area of the optical receiver at the end of the optical fibre.

14. The method according to Claim 10 wherein each electrical signal provided by each individual region is connected to an independent, high-bandwidth amplifier (21, 22, 23, 20), thereafter they are electrically combined (30).
15. The method according to Claim 10 wherein the optical receiver (11) converts an optical signal from the same fibre substantially concurrently into several corresponding electrical signals, in particular by several independent photo-diodes acting as individual regions.

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